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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,346	03/27/2001	Masaaki Yuri	NAK1-BM89	1206

7590 05/23/2003
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EXAMINER

LEUNG, QUYEN PHAN

ART UNIT PAPER NUMBER

2828

DATE MAILED: 05/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

Applicant(s)

09/818,346

YURI ET AL.

Examiner

Art Unit

Quyen P. Leung

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) 3-5, 8, 11, 14, 17 and 45-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 7, 9, 10, 12, 13, 15, 16 and 18-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 3-5, 8, 11, 14, 17 and 45-60 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species II-IV (or figures 8-14), there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.

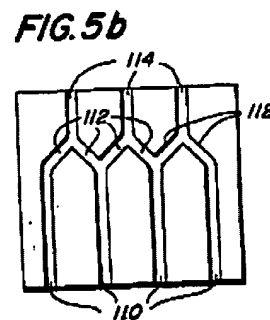
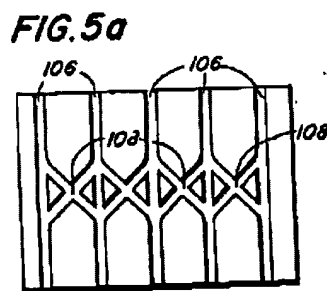
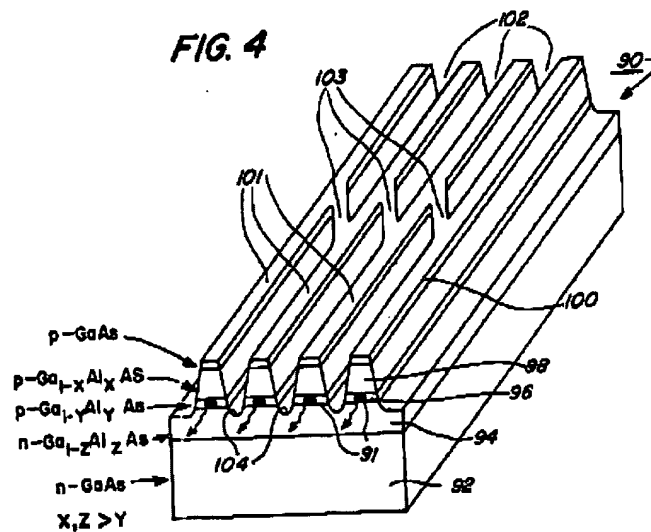
Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

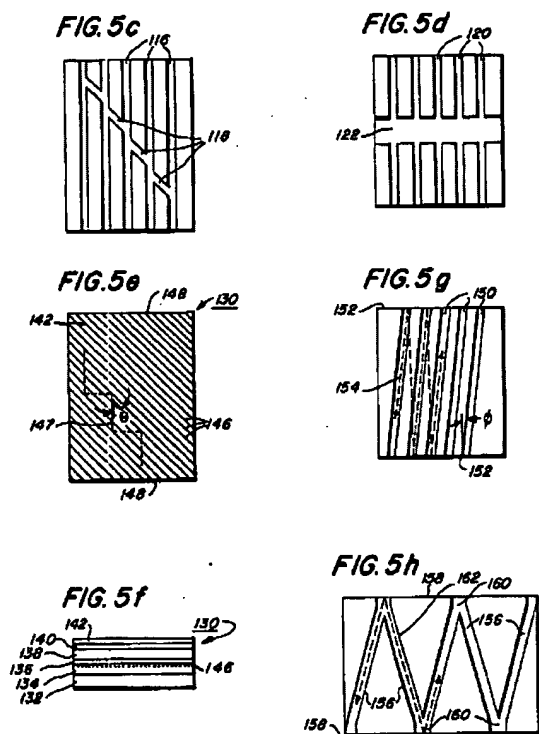
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 6-7, 9-10, 12-13, 15-16 and 18-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Scifres et al (RE 31,806). Scifres et al discloses the claimed invention of a semiconductor laser array apparatus (90) comprising a



substrate (92), a plurality of current blocking elements (102) that are stripe shaped and are formed on the substrate (92), and a plurality of light waveguides (101) that are formed between the plurality of current blocking elements (102), wherein at least two adjacent light waveguides (101) are optically connected (via 103) by removing a part of each current blocking element (102) therebetween.



from col. 4
 The laser device 90, shown in FIG. 4, is similar in semiconductor material and current channeling as shown in FIG. 1 except there are only four emitting cavities 91 rather than ten and the device is fabricated to provide spacing 102 between adjacent cavities. The fabrication of laser device 90 is as follows. Layers 92, 96, 98 and 100 are sequentially deposited using conventional techniques as previously indicated. No isolating or contact layers need be formed on layer 100. Using conventional photolithographic techniques, a mask is prepared on layer 100, exposed and thereafter controlled etching provides spacings 102. The depth 104 of spacings 102 is controlled to be established within layer 94 adjacent to active layer 96. The resulting structure appears as a plurality of parallel mesa structures 101 coupled by interconnecting mesa structures 103.

Appropriate contacts can be provided on layer 100 and on the bottom of substrate 92. The resulting structure, upon current pumping, will operate in the same manner as laser device 10. Spacings 102 provide better current confinement properties than possibly obtainable in connection with laser device 10 of FIG. 1.

The spacing 102 between provides for a medium, air, which has a low index of refraction than active layer 96. This spacing may also be filled with a semiconductor material deposited during a second sequence of growth. The material chosen should have a lower index of refraction than active layer 96.

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Regarding the refractive index of the current blocking element (102) being smaller than each light waveguide (101), note col. 4 lines 60-65.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quyen P. Leung whose telephone number is (703) 308-0545. The examiner can normally be reached on 8:30-5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Quyen P. Leung
Primary Examiner
Art Unit 2828

QPL
May 19, 2003